

The TABLE.

explication of filtration, and several
 29 other Phenomena; such as the motion
 of Bodies on the surface of Liquors; se-
 30 veral Experiments mention'd to this
 purpose. Of the height to which the wa-
 ter may rise in these Pipes; and a conje-
 31 cture about the juices of Vegetables, &
 the use of their pores. A further expli-
 cation of Congruity: And an attempt of
 solving the Phenomena of the strange
 Experiment of the suspension of the
 32 Mercury at a much greater height
 then thirty inches. The efficacy of im-
 mediate contact, and the reason of it.

33 **Observ. 7. Of Glass drops.**

Several Experiments made with
 34 these small Bodies. The manner of the
 breaking and flaving of them, expli-
 35 cated by Figures. What other bodies
 will be flaved much in the same man-
 ner: some other tryals, and a descrip-
 tion of the Drops themselves: some
 conjectures at the cause of the Phæ-
 36 nomena, endeavour'd to be made pro-
 bable by several Arguments and Expe-
 riments. An Experiment of the expan-
 sion of Water by heat, and shrinking by
 cold: the like Proprieties suppos'd in
 37 Glass drops, and what effects proceed
 from them: the seven Propositions on
 which the conjectures are grounded.
 Experiments to shew, that bodies ex-
 38 pand by heat. The manner of making
 Thermometers, and the Instrument
 39 for graduating them. The manner of
 graduating them, and their use: O-
 ther Experiments to prove the expan-
 40 sion of bodies by heat. Four experimen-
 tal Arguments to prove the expansion
 41 of Glass by heat: further prov'd by the
 Experiment of boiling Alabaster; &
 which is explicated. An explication
 of the contracting of heated Glass up-
 42 on cooling. An explication how the
 parts of the Glass become bent by sud-
 den cold; and how kept from extrica-

ting themselves by the contignation of
 the Glass drop; which is further ex-
 plicated by another Experiment made
 with a hollow Glass ball: the reason of
 the flying asunder of the parts further
 explicated: that 'tis probable these bo-
 dies may have many flaws, though not
 visible, and why: how a gradual heat-
 ing and cooling does put the parts of
 44 Glass, and other hardned bodies,
 into a looser texture.

Observ. 8. Of Fiery Sparks.

The occasion and manner of ma-
 king this Experiment: divers Obser-
 vations set down in order to the find-
 ing out the reasons: some conjectures
 concerning it, which are endeavour'd
 to be explicated and confirm'd by se-
 veral Experiments and Reasons: the
 Hypothesis a little further explica-
 46 ted. Some Observations about the
 Globular Figure: and an Experiment
 of reducing the filings of Tin or Lead
 to exactly round Globules.

Observ. 9. Of Fantastical Colours.

The texture of Muscovy Glass; its
 Figures: what other Bodies are like it:
 that it exhibits several colours, and
 48 how: several Observations and Experi-
 ments about those colours: the reason
 why on this occasion the nature of co-
 49 lours is inquir'd into. A conjecture at
 the reason of these colours explicated
 50 by several Experiments and Reasons.
 First, by continual cleaving the Body
 till it become colour'd. Secondly, by
 producing all kinds of colours with
 two flat Plates of Glass. Thirdly, by
 blowing Glass so thin in the Lamp, till
 it produce the same effect. Fourthly, by
 doing the same with Bubbles of di-
 vers other transparent Bodies: the
 reasons of the colours on heated Steel,
 where by the way the causes of the
 52 hardning

The TABLE.

52 hardning and tempering of Steel,
 endeavour'd to be shewn and explica-
 ted by several Reasons and Experi-
 ments: the reason of the colours on
 53 Lead, Brass, Copper, Silver, &c. other
 Instances of such colour'd bodies in
 animal substances: several other di-
 stinguishing Observations. Des Cartes
 54 Hypothesis of Colours examin'd. An
 Hypothesis for the explication of
 light by motion, endeavour'd to be
 explicated and determined by seve-
 55 ral Reasons and Experiments: three
 distinguishing Properties of the moti-
 on of light. The distinguishing Proper-
 56 ties of a transparent Medium [that
 there seems to be no Experiment that
 proves the Instantaneous motion of
 57 light] the manner of the propagati-
 on of light through them. Of the ho-
 mogeniety and heterogeniety of
 transparent Mediums, and what ef-
 fects they cause on the Rayes of light,
 explicated by a Figure: an Exami-
 58 nation of the refraction of the Rays
 by a plain Surface, which causes Co-
 lours. An Examination of the like ef-
 59 fects produced by a spherical Surface:
 the use that may be made of these Ex-
 periments, for the examination of
 several Hypotheses of Colours. Des
 60 Cartes Hypothesis examin'd. Some
 61 Difficulties taken notice of in it. What
 seems most likely to be the cause of co-
 92 lour: that propriety is endeavour'd
 to be shewn in a Glass ball: that the
 reflection is not necessary to produce
 63 Colours nor a double refraction: the
 Hypothesis further examined, both in
 64 the pellucid Medium and in the Eye.
 The definitions of Colours; and a fur-
 65 ther explication and examination of
 66 the Proprieties of laminated Bodies;
 67 by what means they conduce to the
 production of Colours.

Observ. 10. Of Metalline Colours.

68 That all Colours seem to be caus'd by

refraction. An Hypothesis consonant
 herunto, explicated by Figures. How
 69 several Experiments, of the sudden
 changing of Colours by Chymical Li-
 quors, may be hereby explicated: how
 70 many wayes such Chymical Liquors
 may alter the colours of Bodies.
 Objections made against this Hypo-
 71 thesis of two colours only, endeavour-
 ed to be answer'd, by several Reasons
 and Experiments. The reason why
 72 some Colours are capable of being di-
 luted, others not: what those are: that
 probably the particles of most metal-
 line Colours are transparent; for this
 several Arguments and Observations
 are recited: how Colours become in-
 73 capable of diluting, explicated by a
 Similitude. An Instrument, by which
 74 one and the same coloured Liquor at
 once exhibited all the degrees of co-
 lours between the palest yellow and
 deepest red: as likewise another that
 exhibited all varieties of blues: se-
 veral Experiments try'd with these
 75 Boxes. An Objection drawn from the
 nature of Painters colours answered:
 that diluting and whitening a colour
 are different operations; as are
 deepening and blackening: why some
 may be diluted by grinding, and some
 other by being tempered with Oyl:
 several Experiments for the explica-
 76 ting of some former Assertions: why
 77 Painters are forced to make use of
 many colours: what those colours are:
 and how mixt. The conclusion, that
 78 most coloured Bodies seem to consist
 of transparent particles: that all co-
 79 lours dissoluble in Liquors are capa-
 ble of diluting: some of mixing, what
 a strange variety may thereby be pro-
 duc'd.

Observ. 11. Of the Figures of Sand.

Of the substances and shapes of 80
 L 1 common